

Abstract of the Disclosure

A method of forming a substrate for use in IC device fabrication includes preparing a silicon substrate, including doping a bulk silicon (100) substrate with ions taken from the group of ions to form a doped substrate taken from the group of doped substrates consisting of n-type 5 doped substrates and p-type doped substrates; forming a first relaxed SiGe layer on the silicon substrate; forming a first tensile-strained silicon cap on the first relaxed SiGe layer; forming a second relaxed SiGe layer on the first tensile-strained silicon cap; forming a second tensile-strained silicon cap on the second relaxed SiGe layer; and completing an IC device.